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NOTES ON GEOGRAPHIC DISTRIBUTION

First record of *Pipa carvalhoi* (Miranda-Ribeiro, 1937) (Anura: Pipidae) in the state of Sergipe, northeastern Brazil

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ABSTRACT: The Pipidae family is represented by seven frog species in South America and Panama, strictly linked to aquatic environments. *Pipa carvalhoi* is currently distributed in the states of Bahia, Ceará, Espírito Santo, Minas Gerais, Paraíba and Pernambuco, in Brazil. We report the first record of *Pipa carvalhoi* for the state of Sergipe, Brazil, in the Conservation Unity Monumento Natural Grota do Angico, Poço Redondo municipality. This study significantly expands the distribution of the species in northeastern Brazil.

The Pipidae family is represented by seven species in South America and Panama (Frost 2013). These anuran species are strictly linked to aquatic environments and rarely use terrestrial environments (Wells 2007). Species in this family have a peculiar reproductive mode in that male and female frogs perform acrobatics in the water for fertilization of their eggs on the back of the female, after which, the tadpoles develop in water or continue its development on female dorsum until the metamorphosis (Trueb and Cannatella 1986; Duellman 2005; Arzabe *et al.* 2010).

In Brazil, the genus *Pipa* is represented by four species: *Pipa arrabali* Izecksohn, 1976, *Pipa carvalhoi* (Miranda-Ribeiro, 1937), *Pipa pipa* (Linnaeus, 1958) and *Pipa snethlageae* Müller, 1914. *Pipa carvalhoi* was described by Miranda-Ribeiro (1937), from the type locality Poção municipality, state of Pernambuco. Currently, it is know to be distributed in the states of Bahia, Ceará, Espírito Santo, Minas Gerais, Paraíba and Pernambuco (Arzabe *et al.* 2010; Frost 2013).

FIGURE 1. *Pipa carvalhoi* (C00177), State Conservation Unity Monumento Natural Grota do Angico, state of Sergipe, Brazil. Photo by C.B. De-Carvalho.

We report the first record of *Pipa carvalhoi* (Figure 1) for the state of Sergipe, Brazil. The observation occurred on February 25, 2011, in the State Conservation Unit Monumento Natural Grota do Angico (9°39′50″ S, 37°40′57″ W; 200 m above sea level) (Figure 2), municipality of Poço Redondo. The specimen of *Pipa carvalhoi* (SVL: 38.16 mm) was collected in a temporary pond in an anthropic environment, with many grasses, near a rocky outcrop. The collected specimen was fixed in 10% formalin and preserved in 70% alcohol, and deposited in the Herpetological Collection of the Universidade Federal

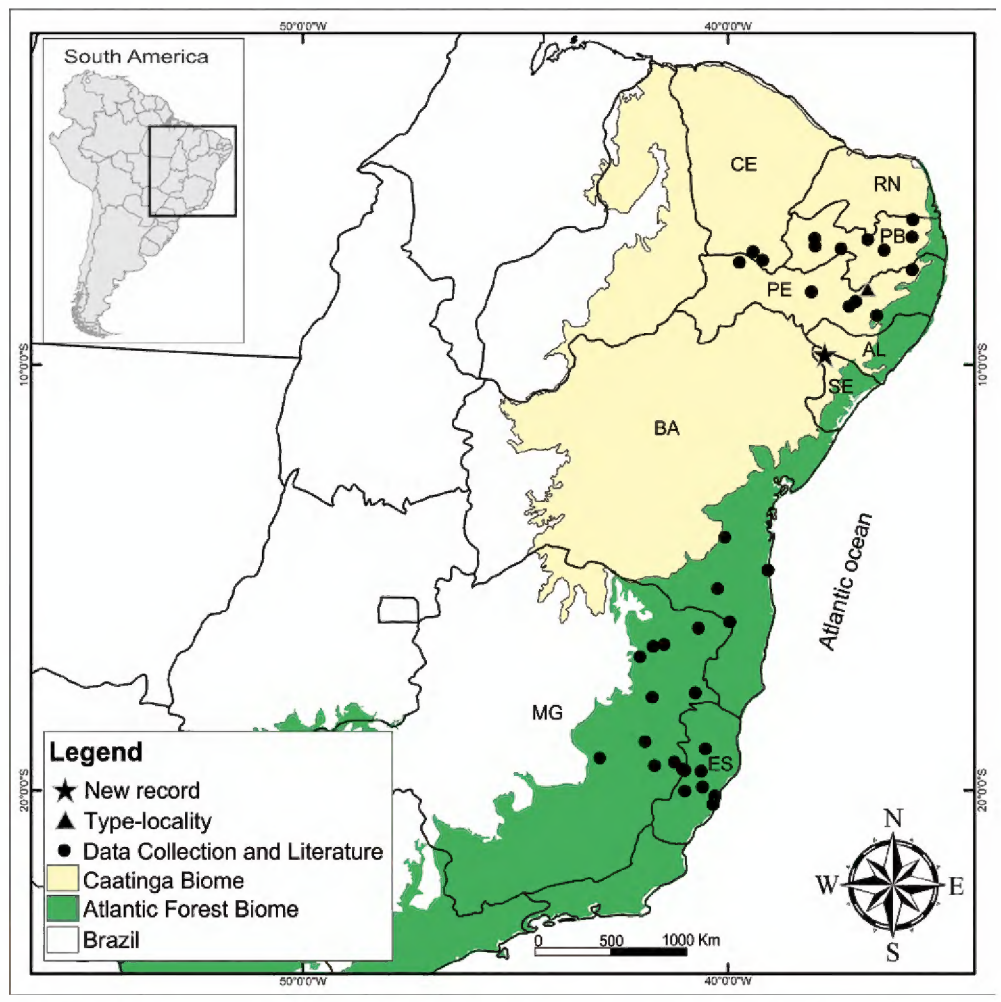

FIGURE 2. Geographic distribution of Pipa carvalhoi with data obtained from the following literature records: Trueb and Cannatella 1986; Caramaschi 1989; Arzabe 1999; Arzabe et al. 2005; Borges-Nojosa and Santos 2005; Canedo et al. 2006; Vieira et al. 2007; Silva et al. 2010; and Data Collection: MZUSP 51890-97, MZUSP 80464-73, UFBA 11028, MUFAL 8573-76. States abbreviations: AL = Alagoas, BA = Bahia, MG = Minas Gerais, PE = Pernambuco, PB = Paraíba, RN = Rio Grande do Norte, Sergipe = SE, Ceará = CE and Espírito Santo = SE.

de Sergipe (CHUFS - Voucher C00177), São Cristóvão municipality, Sergipe state, Brazil.

Our record extends the geographic distribution of *Pipa carvalhoi* by about 300 km relative to its type-locality toward South. This study significantly expands the distribution of the species in northeastern Brazil. Species identification was based on Miranda-Ribeiro (1937) and the nomenclature used in this study follows the taxonomy suggested by the Brazilian Society of Herpetology (Segalla *et al*. 2012). The specimen was collected under the license (permit #10504-1) granted by the Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis – IBAMA.

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Literature Cited

Arzabe, C. 1999. Reproductive activity patterns of anurans in two different altitudinal sites within the Brazilian Caatinga. *Revista Brasileira de Zoologia* 16(3): 851–864.

Arzabe, C., G. Skuk and M. Beier. 2010. *Pipa carvalhoi*, in: IUCN 2012. *IUCN Red List of Threatened Species. Version 2012.2*. Accessible at http://www.iucnredlist.org/details/58160/0. Captured on 21 December 2012.

Arzabe, C., G. Skuk, G.G. Santana, F.R. Delfim, Y.C.C. Lima and S.H.F. Abrantes, 2005. Herpetofauna da área do Curimataú, Paraíba; pp. 259–274, in: F.S. Araújo, M.J.N. Rodal and M.R.V. Barbosa (ed.). *Análise das variações da biodiversidade do bioma Caatinga: suporte a estratégias regionais de conservação.* Brasília: Ministério do Meio Ambiente.

Borges-Nojosa, D.M. and E.M. Santos. 2005. Herpetofauna da área de Betânia e Floresta, Pernambuco; pp. 275–289, in: F.S. Araújo, M.J.N. Rodal and M.R.V. Barbosa (ed.). *Análise das variações da biodiversidade do bioma Caatinga: suporte a estratégias regionais de conservação*. Brasília: Ministério do Meio Ambiente.

Canedo, C., J.P. Garcia, R. Fernandes and J.P. Pombal Jr. 2006. Diet of *Pipa carvalhoi* (Amphibia, Pipidae) is not influenced by female parental care. *Herpetological Review* 37(1): 44–45.

Caramaschi, U. 1989. Notes on the type specimens of *Pipa carvalhoi* (Miranda-Ribeiro, 1937) (Anura, Pipidae). *Journal of Herpetology* 23: 192–193.

Duellman, W.E. 2005. *Cusco Amazónico. The lives of amphibians and reptiles in an Amazonian rainforest: i-xv*. Ithaca and London: Comstock Publishing Associates. 433 pp.

Frost, D.R. 2013. *Amphibian Species of the World: an Online Reference. Version 5.6* (9 January, 2013). American Museum of Natural History, New York, USA. Accessible at http://research.amnh.org/vz/herpetology/amphibia. Captured on 17 April 2013.

Miranda-Ribeiro, A. 1937. Sobre uma collecção de vertebrados do nordeste brasileiro. Primeira parte: peixes e batrachios. *O Campo* 8: 54–56.

Segalla, M.V., U. Caramaschi, C.A.G. Cruz, P.C.A. Garcia, T. Grant, C.F.B. Haddad and J. Langone. 2012. *Brazilian amphibians – List of species.* Sociedade Brasileira de Herpetologia. Accessible at http://www.sbherpetologia.org.br. Captured on 21 December 2012.

Silva, E.T., V.D. Fernandes, D.J. Santana and R.N. Feio. 2010. Amphibia, Anura, Pipidae, *Pipa carvalhoi* (Miranda-Ribeiro, 1937): Distribution extension and geographic distribution map in the southeast of Brazil. *Check List* 6(3): 451–453.

Trueb, L. and D.C. Cannatella. 1986. Systematics, morphology, and phylogeny of genus *Pipa* (Anura: Pipidae). *Herpetologica* 42(4): 412-449.

Vieira, W.L.S., C. Arzabe and G.G. Santana. 2007. Composição e distribuição espaço-temporal de anuros no Cariri paraibano, nordeste do Brasil. *Oecologia Brasiliensis* 11(3): 383–396.

Wells, K.D. 2007. *The ecology and behavior of amphibians*. Chicago: The University of Chicago Press. 1148 pp.

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